NPDES Report for the Period January 1 to December 31, 2000
Pierce County, Washington
March 2001

This report describes the ongoing activities of Pierce County in fulfillment of the requirements of the National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for discharges from municipal separate storm sewers for the South Puget Sound Water Quality Management Area, and the portion of the Kitsap Water Quality Management Area located in Pierce County.

Assessment of Stormwater Program Needs

During 2000, Water Programs initiated or continued work on five basin plans. They include the Clover Creek, Muck Creek, Gig Harbor, Mid-Puyallup River and Clear/Clarks Creek basins. A schedule for all 26 of the Pierce County basins was included with the 1999 NPDES report. A total of $721,400 was spent on this activity in 2000.

Wetlands Banking

Work on the wetlands banking program in Water Programs was largely administrative in 2000. Water Programs' continued to evaluate properties already owned by Water Programs for suitability. Work also continued on establishing banking guidelines, a task made more difficult by rapidly changing state policies. $22,350 was spent on this activity in 2000.

No banking work was done in 2000 in the Transportation Division. Wetland mitigation projects consist of the 2 sites for the Lake Tapps Parkway: Butte Pit - created 2.4 acres of wetland that also provides off-channel habitat for the Stuck River, and 96th St. E. created 6.3 acres of wetland. A technician has been performing quarterly water quality testing on the Butte Pit site. There was also a stream relocation associated with the Lake Tapps Parkway project. Grading and planting was done but the final connection for the relocation won't happen until June 2001.

Capital Improvement Program

Water Programs expended $4,776,400 on CIP projects in 2000. Projects include detention ponds to reduce flooding and habitat degradation, infiltration and a regional pump station to control widespread flooding. Details of major activities are listed in Table 1.

TABLE 1: 2000 CIP Expenditures

Project Description	Current Status	2000 Expenditure
D320 – Pacific Ave & 106th St. E Pipeline. Prevent flooding of mixed residential,	Completed in 2000	$807,700

Project Description	Current Status	2000 Expenditure
commercial & light industrial area.		
D329 – South Hill Pump Station – Pump excess storm water from pothole areas directly to the Puyallup River to prevent flooding of residences and county roads.	Started construction in 2000. Completion scheduled for August 2001	$1,083,600
D402 – 136th St. Road Elevation – Raise a portion of roadway above the 100-year floodplain to guarantee access and replace existing culvert with fish-passage friendly box culvert.	Design complete. Construciton delayed by permitting issues. Construct in 2001.	$172,000
D303 – North Fork Clover Creek Detention Pond. Major detention pond (100 acre-feet) to prevent downstream erosion, flooding and habitat degradation. Includes large in-pond wetland area.	Major construction completed in 1999. Wetlands establishment continued in 2000.	$292,450
D319 – Sand Pit Pond – Construct infiltration pond to prevent flooding of roads and residences in pothole area.	Constructed in 2000	$500,600
D327 – W-1 Pond. Construct an 80 acre-ft pond on major tributary of Clover Creek to reduce downstream flooding and erosion	Construction delayed by permitting issues. Construct in 2001.	$93,700
D147 – Lower Meridian (144th St. E & SR-161) Expand capacity of existing infiltration facility to eliminate flood caused closure of highway.	Constructed in 2000	$1,093,000
D149 – 146th & 80th St. E. Pipeline. Enlarge existing pipe system leading to the Puyallup River to eliminate flooding of roadway and residences.	Constructed in 2000.	$170,300
D144 – 192nd St. E. & 22nd Ave. Construct a new infiltration pond to address localized flooding.	Design and land acquisition. Construction in 2001	$428,800

Activities in Support of Total Maximum Daily Loads (TMDL)

In February 2000, EPA finalized a TMDL for the Lake Steilacoom-Clover Creek system. As Ecology is aware, we have serious reservations with the results of EPA's analysis of the basin, and have since filed a complaint in Federal District Court against EPA. However, under the terms of our current permit, we were obligated to indicate to Ecology how we would implement actions to reduce anthropogenic phosphorus entering Clover Creek. We outlined our current actions to Ecology in a letter in June, 2000, and these actions were subsequently approved by Ecology. We did indicate that we would prioritize our industrial/commercial inspections in the Clover Creek basin to ensure that there was no additional inputs of phosphorus that we did not know of. We did these

inspections, and the results are attached to this report. We did not find any additional sources of P which could account for the loadings indicated by EPA.

Ecology began work on the TMDL for fecal coliform and temperature in South Prairie Creek in 2000. We cooperated with Ecology in some joint sampling, and spoke to creekside residents who appeared to have possible inputs of manure to the stream. These efforts will continue as needed through 2001.

River Activities

Land Acquisition

Sixteen (16) separate riverine land parcels were purchased for a total purchase cost of $1,063, 895. The total land area of purchases is 76 acres. Four of the parcels contained house structures which were demolished and hauled away as part of the acquisition. Septic tanks are also removed at the time of demolition. The parcels will be kept as permanent open space and allowed to revert back to natural conditions.

Floodplain Map Modification

Work continued on the floodplain map modification project. This project is the result of FEMA designating the county as a Cooperating Technical Community (CTC) and awarding a grant in the amount of $40,000. The project will allow the county to update its current community floodplain mapping using much more accurate base topographical mapping the county recently produced as part of its ortho-photo mapping project. The project is focusing on updating the existing FEMA mapped 100-yr floodplains for numbered A-zones and lakes. This includes thirty-one (31) stream tributaries and eight (8) lakes. The project will continue through June 2001.

Fish Passage Committee

Pierce County Water Programs also continued its participation on the Fish Passage Culvert Committee. This committee is moderated and steered by the Pierce Conservation District, and includes representatives from the Puyallup and Muckleshoot tribes, Fish and Wildlife, King and Pierce Counties, Champion International, and private consulting biologists. The primary objective of this committee is to identify, inventory, catalog in a database, and prioritize existing culverts within the Puyallup River Watershed. Each identified culvert is then reviewed for fish passage blockages. As culverts are found to be fish blockages, the culvert is prioritized with a priority index.

The highest prioritized culverts yielding the most effective habitat for the cost are then put on a list for funding as funding programs become available.

Salmon Recovery Grant Program – State Interagency Committee for Outdoor Recreation

The purpose of this grant is the acquisition of riverine floodplain property to protect and preserve salmon habitat within the riverine riparian corridor. The grant funding amount is $1,600,000. The project commenced in 1999 and will continue through October 2001.

Two acquisition sites along the Carbon and Puyallup Rivers have been identified. The identified sites were chosen through a coordinated process between the Puyallup Tribe of Indians, Port of Tacoma, Pierce County, and private independent fish biologists. The subject sites were also selected from the tribes salmon habitat land acquisition catalog.

Acquisitions along the Carbon River include five separate parcels for a total area of 37 acres. The location is along the right and left banks of the river between river miles 0.6 and 1.4. Acquisitions along the Puyallup River include ten separate parcels for a total area of 140 acres. The location is along the right and left banks of the river between river miles 22.2 and 22.6.

Protection and preservation of salmonid fish habitat will result from these purchased, thereby providing needed fish overwintering, refuge and rearing habitat. Eventually, the acquired floodplain land may be opened up by removing and setting back the existing levee, allowing natural river meander and migration within the floodplain corridor.

Community Rating System

Pierce County applied for and was verified into the Community Rating System (CRS) in October 1995. At the time of enrollment, the County was verified as a Class 8 CRS Community. The county was not content with this rating and expanded its programs and activities to earn more creditable points and, ultimately, a better rating over the next five years. The primary reason for obtaining a better rating is for the benefit of residents and cost savings to those purchasing flood insurance.

In October 2000, Pierce County successfully re-verified in the CRS program as a Class 5 community. Pierce County is the first county in the nation to attain a Class 5 rating (in other words, we are the best rated county in the country)!

Some of the activities that the County earned credit for include the following:

- Elevations Certificates including computer format/database
- Map Information – publicizing the service in the regional phone book
- Outreach Projects – production of a video titled "As the Waters Rise"
- Flood Protection Assistance
- Open Space Preservation – land acquisition with setback levee projects
- Higher Regulatory Standards

- Flood Data Maintenance
- Stormwater Management
- Acquisition and Relocation
- Drainage System Maintenance
- Floodwarning

Pierce County has recently completed a draft Repetitive Loss Plan (formal adoption is pending) due to its recent classification as a Repetitive Loss Community. The plan addresses how it will manage the repetitive flooding and work towards reducing (if not mitigating) flood damages to the subject properties that are located in three geographical areas of the county for a total of twenty-four properties that were classed as repetitive loss.

The Pierce County Water Programs Manager, Tim Ramsaur, also served on the FEMA CRS Task Force for the period of July 1997 thru December 1999 which focused on revisions to the current CRS Manual.

The county continues to strive forward in implementing new activities and programs all for the benefit of the residents for unincorporated Pierce County and to reduce flood losses within the community.

Watershed Planning

During the year 2000 staff spent time pursuing and obtaining formal acceptance from the County Council and various municipalities on the Key Peninsula-Gig Harbor-Islands (KGI) Watershed Plan, and the Clover-Chambers Watershed Plan. Both plans have been adopted, and are now moving into the acknowledgment and implementation phase. Other activities have included forming the Interim Watershed Council for the KGI watershed and assisting them with governance issues. Work is proceeding to form a watershed council for the Chambers-Clover.

In the Puyallup Watershed, the Lower Puyallup Watershed Plan was completed some time ago but implementation and monitoring tasks are still in process. The Upper Puyallup Watershed Plan has taken the Lion's share of our time 2000. We began over a year ago and are now completing both the Characterization and the Action Plan. Three staff planners have worked on it during the last year. The Puyallup River Watershed Council (PRWC) was staffed with a coordinator last year with monies from Salmon Lead Entity funds, and a Water Programs match. This position ended in December 2000.

Water Programs also was responsible for leading the committee for the Burley Lagoon Shellfish Protection District, and planning staff took a role in this. They also continued to hold informational meetings for the public on Rocky Bay water quality issues.

General watershed planning activities, to include presentations, communications, assisting with forums, environmental education meetings, coordination with federal, state, local agencies and districts, working with Tribes, watershed training, and tracking down information for people also took a large part of the planning group's time.

Controlling Runoff from New Development and Redevelopment

The Development Engineering Section is responsible for ensuring that development and redevelopment occurs in accordance with the requirements of the County's Stormwater Management and Site Development Ordinance. During 2000 the Development Engineering Section had some employee turnover, but on average we had twenty-one people on staff. The following is a breakdown of our staffing for the year along with the percentage of time spent by each employee implementing the requirements of the ordinance:

A.) We employed three CE2 engineers for the entire year. We employed another CE2 engineer for four months. These employees reviewed the designs of proposed road, storm drainage, clearing, and impervious surface type-projects for compliance with the County's Stormwater Management and Site Development Ordinance. Sixty percent of their time was spent implementing the ordinance requirements.

B.) We employed one CE2 engineer for the entire year. Fifty percent of this employee's time was spent reviewing the designs of proposed road, storm drainage, clearing, and impervious surface type-projects for compliance with the County's Stormwater Management and Site Development Ordinance. The other fifty percent of this employee's time was spent handling complaints and violations related to stormwater, erosion, filling, and flooding.

C.) We employed three and one-half ET3 inspectors for the entire year who performed erosion control inspections and permanent BMP inspections on road, storm drainage, commercial, subdivision, and industrial-type developments (one ET3 inspectors spend half of his time on road storm drainage, commercial, subdivision, and industrial-type developments and the other half on single family construction). Sixty percent of their time was dedicated to implementing the ordinance requirements.

D.) We employed two and one-half ET3 inspectors for the entire year to perform erosion control and drainage inspection on single family home construction. One hundred percent of their time was dedicated to implementing the ordinance requirements.

E.) We employed one ET3 inspector for the entire year. One hundred percent of this employee's time was spent investigating, documenting and resolving potential violations of the ordinance requirements.

F.) We employed one ET3 inspector for five months. Sixty percent of this employee's time was spent investigating, documenting, and resolving potential violations of the ordinance requirements.

G.) We employed one ET3 counter technician for the entire year to assist single-family building permit applicants in implementing necessary storm drainage and erosion control BMPs that are a requirement of the ordinance. Sixty-five percent of this position's time was spent on these issues.

H.) We employed one ET3 counter technician for nine months to assist single-family building permit applicants in implementing necessary storm drainage and erosion control BMPs that are a requirement of the ordinance. Sixty-five percent of this position's time was spent on these issues.

I.) We employed one CE1 for seven months. This employee reviewed the designs of proposed road, storm drainage, clearing, and impervious surface-type projects for compliance with the County's Stormwater Management and Site Development Ordinance. Seventy percent of this employee's time was spent implementing the ordinance requirements.

J.) We employed one ET3 for three months. This employee reviewed the designs of proposed road, storm drainage, clearing, and impervious surface-type projects for compliance with the County's Stormwater Management and Site Development Ordinance. Seventy percent of this employee's time was spent implementing the ordinance requirements.

K.) We employed two OA2 office assistants and one part time office assistant for the entire year to provide support for CE2, CE1 and ET3 staff. Fifty percent of their time was spent providing support to staff for issues relating to ordinance implementation.

L.) We employed one Development Engineering Supervisor for the entire year. The supervisor was responsible for directing staff in the implementation of the ordinance. Approximately thirty percent of the supervisor's time was spent on issues related to ordinance implementation.

M.) We employed one Development Engineering Inspection Supervisor for six months. The supervisor was responsible for directing staff in the implementation of the ordinance. Approximately fifty percent of the supervisor's time was spent on issues related to ordinance interpretation.

N.) We employed one engineer for six months on an extra hire basis to review plans. Sixty percent of this position's time was spent implementing the ordinance.

O.) We retained four engineering firms for the entire year to assist in plan review. Eighty percent of these firm's time was spent implementing the ordinance.

The Development Engineering Section expended just over $1,000,000 during 2000 implementing the Stormwater Management and Site Development Ordinance. This number may increase slightly in 2001 as we are still working on a few projects that were vested under older stormwater, erosion control and grading ordinances.

The Code Enforcement Section of the Planning Department is responsible for investigation and enforcement of numerous County ordinances, and they act as the central clearinghouse for complaints. The Code Enforcement Section supports implementation of the Stormwater Management and Site Development Ordinance by fielding telephone calls and initiating the documentation of complaints pertaining to storm drainage, erosion, sedimentation, and flooding. One employee from Code Enforcement spent twenty percent of his/her time performing these activities. In 2000 the Code Enforcement Section expended $ 8000 supporting the Development Engineering Section in enforcement of the ordinance requirements.

In 2000, approximately 3550 site development permits were approved. A site development permit is required whenever proposed construction triggers certain thresholds for the amount of clearing, amount of excavation, or amount of proposed impervious surface. These 3550 permits covered projects as small as erosion control for single-family home construction on up to stormwater conveyance, quantity, and quality facilities for subdivision or commercial project construction.

A total of approximately 6940 inspections on permitted projects were performed. This number reflects erosion control inspections, storm drainage system (conveyance, quality, quantity) inspections, and excavation inspections for single family, subdivision, commercial, and industrial projects. These 6940 inspections can be further characterized as follows:

- Approximately 5550 of these inspections were associated with projects permitted under the County's Stormwater Management and Site Development ordinance.
- Approximately 4620 of these 5550 inspections were associated with single-family residential construction for both temporary erosion control and permanent drainage provisions. The remaining 930 were associated with commercial, industrial, short plat, formal plat, and large lot projects.
- Approximately 400 of the 5550 total inspections required in association with the Stormwater Management and Site Development ordinance were of temporary drainage and erosion control measures. The

remaining 1600 pertained to permanent site grading, drainage and site stabilization requirements.

In 2000 the enforcement arm of the Development Engineering Section received requests to investigate 307 problems/requests pertaining to drainage and erosion control. The following is a breakdown of the nature of these problems/requests:

- 288 - filling and grading
- 4 - drainage system failures
- 14 - flooding of private property
- 1 - flooding related to development
- 2 - runoff from construction site

Of these 307 problems/ requests: three were on permitted sites, and five were not violations. Currently these problems/ requests are in various stages of resolution. One hundred and ninety of these problems/ requests have been resolved. One hundred and seventeen of these problems/ requests are still awaiting a field inspection.

To summarize, the amount of staff time dedicated to assuring that proposed designs for drainage and erosion control met the requirements of the new manual greatly increased in 2000 when compared to 1999. The amount of inspections pertaining to the new manual also greatly increased in 2000. However the following areas require improvement (and in some cases significant improvement) in order to meet the intent of the manual:

- Maintenance of temporary erosion control facilities on single family residences by contractors/ builders
- The County still is struggling to meet state mandated turnaround times, in an attempt to meet these turnaround times, the quality of the review, and thus, the quality of the end product is sometimes sacrificed. This situation still exists even with the additional 2000 expenditures for increased staff time.
- There are potentially a large number of violation sites that go un-addressed as we currently only respond to complaints, and there are violations that do not draw complaints.
- Bringing violation sites into compliance.
- Correction of failing storm drainage systems by developers.
- Actual implementation of temporary erosion control measures by contractors in a timely fashion, especially when inclement weather is due.
- Implementation of the Annual Scope of Work portion of the Stormwater Management and Site Development Ordinance.
- Getting contractors to use the construction entrance on residential projects.

Groundwater and Shellfish Protection

The Tacoma-Pierce County Health Department's Source Protection Program activities in 2000 that related to the NPDES Permit included:

- The Source Protection Program conducted a Recreational Shellfish Program in 2000 with financial and technical assistance from the Washington State Department of Health. Activities conducted included public education and Paralytic Shellfish Poison (PSP) monitoring and notification. Program staff continued to participate in an innovative and collaborative effort, initiated by the Washington State Department of Fish and Wildlife, to better work with and educate the Asian-Pacific-Islanders (API) community on recreational shellfish issues. This work included hiring a number of API youths to assist with PSP monitoring and educating the community about general shellfish issues. **FTE:** 0.15 **COSTS:** $7,200

- In its third full year of operation, the On-Site Sewage Operation and Maintenance (O&M) Program now has more than 7,000 on-site sewage systems in the program. These include systems serving single- and multi-family residences, community systems, commercial buildings, and food service establishments. Under the program, most systems are required to be inspected every three years and complex systems are required to be examined every year. System as-built drawings, brochures and other information has been distributed to system owners and users as part of a program to increase awareness of septic system issues. A grant was applied for and awarded in 2000 that will help increase coverage of the program. The grant will begin in 2001. **FTE:** 2.2 **COSTS:** $160,000

- Under a grant from the Washington State Department of Health, the Source Protection Program has nearly completed development of a map of Wellhead Protection Areas for land use management and spill response purposes. The information has been entered into Pierce County's GIS system, *Countyview*, and is available to all Pierce County departments. Approximately two-thirds of the wells in the database have been located using a GPS unit and are accurate to within five meters of their true location. The remaining wells are expected to be accurately located in the first half of 2001. **FTE:** 0.5 **COSTS:** $29,000

- The Source Protection Program conducted a bathing beach sampling program during the summer of 2000 to assess health concerns to swimmers at seven public swimming beaches. Sampling was conducted every other week over most of the summer for water temperature, pH, conductivity, E coli concentrations, number of water fowl present, and number of swimmers present. The action level used generally followed the U.S. Environmental Protection Agency's guidelines, with a recommendation against swimming being issued when the E coli geometric mean value of 15 or more samples was greater than 126 cfu/100ml or when more than 10% of the samples exceeded 406 cfu/100ml. Water quality throughout the summer was relatively good at all beaches and no recommendations against swimming were issued in 2000. **FTE:** 0.1 **COSTS:** $9,500

- The Long-Term Ground Water Monitoring Program in 2000 continued to record water quality and quantity data from approximately 120 wells throughout Pierce County. As part of the program, two newsletters were developed and distributed to program participants. In addition to the monitoring conducted on a volunteer basis by water purveyors, four wells are monitored on a monthly basis for water level by TPCHD staff. **FTE:** 1.5 **COSTS:** $120,000

- The Source Protection Program continued working on the Chambers-Clover Management Plan Project. This project, which is being conducted in three phases, will develop a comprehensive water plan for the Chambers-Clover Creek Watershed (WRIA 12). Progress was made in 2000 with completion of the first phase of the project, the formation of the Planning Unit and development of the draft Scope of Work, and work beginning on the second phase, to conduct a Technical Assessment. Funding for phase 2 and for phase 3 of the project was awarded in 2000 from the Department of Ecology. The plan will likely take another three to four years to complete and will build upon previous planning projects in the watershed. **FTE:** 0.3 **COSTS:** $42,000

- The Source Protection Program completed work in 2000 on two grants to repair failing on-site sewage systems that were adversely impacting water quality in selected shellfish watersheds. The grants funded 70% of the repair costs, up to $11,000, to repair failing on-site sewage systems in the Mayo Cove Watershed and in the Minter Bay Watershed. Work was also conducted on a similar grant in the Burley Lagoon Watershed and work on this grant will continue through 2001. The Minter Bay and the Burley Lagoon grant work was augmented through funding by Pierce County Water Programs that allowed for active identification of fecal coliform sources. The Burley Lagoon source identification work will continue in 2001 utilizing funds from Pierce County Water Programs. **FTE:** 1.3 **COSTS:** $48,000 (grants) $37,000 (Pierce County Water Programs) $14,000 (TPCHD)

- The Source Protection Program applied for and received a grant in 2000 to conduct a water quality protection project in three shellfish watersheds in Pierce County: Dutchers Cove, Vaughn Bay, and Filucy Bay. Work on the project, which will begin in 2001 and be completed in 2003, will include: water quality sampling to identify fecal coliform sources, sanitary survey work to identify and correct failing on-site sewage systems, referral to the Pierce Conservation District of agricultural operations that are adversely impacting water quality, and the correction of up to two storm water problem sites. **FTE:** 1.5 (in 2001) **COSTS:** $ 106,350 (in 2001)

Coordinated Water System Plan

During 2000, Water Programs reviewed numerous water system plans, processed several requests for service area adjustments, discussed potential "timely and reasonable service" disputes and provided input into the community planning process being conducted by the Pierce County Planning and Land Services Department. Staff has also participated in the Central Puget Sound Water Supplier's Forum (Forum). The Forum is a cooperative effort of water suppliers and counties formed to address future water supply planning, ESA response, water resource issues and public information needs regarding water supply. Staff has also been heavily involved in "2514" watershed planning occurring in the Chambers-Clover Creek, Nisqually and Kitsap Water Resource Inventory Areas.

In February, 2000, the Pierce County Council adopted an Ordinance establishing an interdepartmental loan from the sewer utility to the newly formed (spring, 1999) water utility. A consulting firm, Earth Tech, was then hired to further develop the Pierce County Water Utility. The main focus of work during 2000 centered around gathering needed data to obtain a water right change from industrial to municipal use from the Washington State Department of Ecology for the County's Chambers Creek Properties water resources. Tasks accomplished during 2000 included: a Pierce County Sheriff's dive team practice dive of the "artesian pond"; step test and long term pump test of the deep aquifer well; an evaluation of the amount of water utilized by the gravel mine operations; an evaluation of aquifer capacity; an evaluation of impairment of other existing water rights, and; an identification of intended purpose and place of use. Many of the deliverables in the Earth Tech Phase I scope of work will be utilized in the development of a Pierce County Water General Plan.

Annexations, Incorporations and Exemptions

In 2000, there were no incorporations in Pierce County. Annexations were typically small, and were most frequent in the areas bordering Auburn and Bonney Lake. For the year, annexations and exemptions (senior citizen, churches, granges, and Pierce County Park facilities) amounted to a $56,612 reduction in Water Programs revenue.

Change in Water Quality Status of Waterbodies

Burley Lagoon (WRIA 15, Burley-Minter basin) was downgraded in 1998 for shellfish consumption and rearing due to fecal coliform. The participants in the shellfish protection district (spanning Pierce and Kitsap counties) continued to track down sources of coliform in this basin, and obtained grant money to effect repairs of several on-site septic systems which were degrading water quality. In early 2001, we have heard that the lagoon will be upgraded in Spring 2001.

Filucy Bay (WRIA 15) was sampled by Washington State Department of Health throughout 2000, and in Early 2001 we have heard it will be downgraded for shellfish in Spring 2001.

Rocky Bay was sampled throughout 2000 by WA DOH, and is near to an upgrade in shellfish status.

Chambers Lake continued to be severely impacted by sediments washing down from large scale construction activity with inadequate sediment and erosion control. University Place has allowed a completely denuded site in excess of 50 acres remain uncovered for over 1.5 years, directly contributing sediment to the creek system flowing into the lake.

Last year, we reported some severe effects to the East fork of Rocky Creek (also known as Muck Creek, WRIA 15) due to the activities of 4WD vehicles. We are happy to report that, due to the combined efforts of Tacoma Power, Pierce County and citizen patrols and volunteers, this damage has been greatly curtailed due to the placement of stumps, berms, and continual monitoring and garbage removal. Vigilance will continue along this corridor.

Industrial Inspection Program

The number of FTEs in Water Programs that work on industrial inspection, monitoring and CIP support (one additional engineering technician works almost exclusively on drainage investigations, and maintenance issues), remained at three until October 2000, when one left for a position in the Tacoma-Pierce County Health Department. A full time intern from the Environmental Program at Clover Park Technical College was hired for the summer months of 2000 to help with our workload. A permanent staff replacement was hired in December 2000, and a new engineering technician position was filled in January 2001.

One hundred sixty seven industrial inspections were performed in 2000. This number is nearly triple the number done in 1999 (60). We fully expect this number to increase greatly yet again, with the additional new position mentioned above devoted mainly to inspection.

The Water Programs inspectors also responded to 18 water quality complaints, which ranged from investigating small spills, to manure dumping in ditches.

In 2000, staff developed an industrial/commercial inspection database using Microsoft Access. Using the database allows us to efficiently schedule and track inspections and record pertinent data on the type of business and the BMPs implemented on each parcel. An example of an inspection work order is attached.

Monitoring Program

Due to low flows, monitoring at Squally Creek was discontinued in the spring of 2000 and was not restarted in the fall of 2000. Rocky Bay monitoring for fecal coliform was continued through the year (see attached chart), and as mentioned previously, this bay is nearly ready for upgrade. Burley Lagoon sampling for fecal coliform was also done throughout 2000, and has been announced for upgrade in early 2001 (see attached chart).

Groundwater level monitoring in support of Capital Improvement Projects has continued throughout the year, although frequency of sampling was not increased as it normally would be, due to the effects of the drought (see attached charts).

Continuous flow and temperature monitoring in the Muck Creek, Clover Creek and Gig Harbor basins as part of the basin planning process was started in late fall of 2000.

Precipitation monitoring at five stations within the County has continued throughout 2000, and plans were developed to replace the loggers and tipping buckets (with heated tipping buckets). All rain gauges will also have telephone access, and can be interrogated daily. The flow monitoring gauge in the N. Fork Clover Creek has been upgraded to include telemetry.

Biological Index of Benthic Invertebrate (BIB-I) monitoring was done in twenty-five creek segments, primarily in the KGI and Mid-Puyallup basins (results are attached).

As required, personnel did an end-of-pipe check on each outfall in unincorporated Pierce County during the dry summer months. The results of that survey are attached.

Education Program

In addition to the education program outlined in our River Activities section, Pierce County Environmental Services offers high-quality educational resources to the entire County. Most of the resources described in this summary can be broken down into three main funding categories.

Water Resources Education: $184,000
Household Hazardous Waste Collection Programs: $193,000
Solid Waste/General Environmental Education & Outreach: $677,000

Total Expense: $1,054,000

Source of Funds
Pierce County Water Programs & Sewer Utility: $138,000
Pierce County Solid Waste Division: $562,000
Department of Ecology Coordinated Prevention Grant & Centennial Clean Water Fund: $354,000

The preceding excludes:
1) the cost of the yard waste collection and composting systems (described herein); and
2) management, administration or oversight costs associated with the Water Resources Education and Solid Waste/General Environmental Education programs.

Environmental Education Overview
We have 3 educators on staff to provide education and resources to Pierce County residents. In 2000, our educators gave classroom presentations, guided field studies, provided consultation services, workshops, trainings, loaned educational resources and equipment, and were invited to community events. A total of 540 of these outreach efforts reached over 16,000 Pierce County residents.

A description of the resources referenced above follows:

Classroom Presentations
A selection of environmental presentations is provided for K-12 classrooms, home schoolers, scouts and day camp participants. Each presentation is designed to actively engage students in the topic by encouraging students to discuss the kinds of choices they can make to reduce waste and prevent pollution.

The following presentations were offered:

No Time to Waste
The presentation focuses on where our garbage goes, the elements of a modern landfill, and practical techniques for reducing the amount of garbage that is landfilled (i.e., recycling, precycling and composting) are discussed. Students receive brochures on these topics and teachers are provided with additional curricula and background materials.

Compost Critters
This new presentation goes more in-depth about composting, both yard waste and worm composting. Students identify the critters that aid in composting and what food scraps are appropriate to place in a worm bin.

Hazards in the Home
This presentation covers household hazardous products and their alternatives. Students will understand terms on a product label, and how hazardous chemicals can enter our bodies and the environment. Proper disposal and product alternative information is derived from a hazardous waste information wheel.

Bite of the Finite
A role playing game that introduces students to the finite nature of natural resources, as well as the uneven worldwide distribution of these resources. Students simulate mining forays to gather mostly metal resources, and after spending time and energy doing this, find that most of these resources end up in landfills.

Water We Doing?
This presentation introduces students to water basics--the water cycle in reference to our water use--tracing the path of our household water from aquifer, use, discharge and treatment. Students switch perspective from human to salmon to discover how our everyday activities can affect aquatic wildlife. Students receive handouts and teachers receive curricula on water topics.

Watersheds and You
This interactive program exposes students to the dynamics of land and water that define a watershed. They learn about human activities that affect watershed processes that are vital to our community's ecological health. Students and teachers receive materials on water topics.

Benthic Macroinvertebrates
Students learn about aquatic bugs, the roles they play, why they're important, their life cycles, and why they are water quality indicators. The presentation can include using cards to learn about metamorphosis, and viewing either preserved or live samples.

Field Investigations
Because it is easier to teach about the environment when you can get people outdoors interacting with nature, our educators provide opportunities for students, teachers and citizens to participate in field work and stewardship activities. Students learn how to collect and test water samples for a variety of pollutants. They discover how to assess the health of a stream by studying the kinds of aquatic insects they find in it. Stewardship options are also open to adults through our Citizen Shoreline Inventory program. Volunteers are trained to observe characteristics of the intertidal and upland environment and record the data four times each year. Most consultations are in regards to some type of field work and planning.

ADULT WORKSHOPS

Project WET and Project WILD: *aquatic* Workshops
These workshops are offered to teachers and other youth instructors. The two national curriculum guides are filled with hands-on, water-related activities that provide opportunities to learn about all aspects of this valuable resource, and to encourage investigation into local issues. In 2000, two of these workshops were held with twenty teachers attending. Each workshop provides the teachers with both curriculum guides.

GIS Workshops
These workshops are also for teachers and curriculum directors. Pierce County Environmental Services partnered with Pierce County Information Services to provide two Geographic Information Service (GIS) workshops in 2000 with 20 attendees. ESRI. Inc., the maker of ArcView software, has allowed Pierce County to make available to school districts older versions of the software as Pierce County purchased updated versions. The software combines the power of a database with the visualization capabilities offered by maps. Workshop participants receive a CD with existing County data, but creating their own data allows users to interact with the maps more significantly than just adding or subtracting existing layers of data.

Worm Composting
This workshop was offered five times in 2000 through Tacoma Community Colleges in Tacoma and Gig Harbor, as well as through a Tacoma Community School program. Each session attracted from 15 to twenty participants who learned how to set up and maintain a worm bin to reduce kitchen waste. In addition to learning about worm bin set up and maintenance, participants were taught green gardening tips to reduce the need for fertilizer, pesticides, and water.

OTHER OUTREACH EFFORTS
Educational Resources and Equipment for Loan
Fifty-nine educators, students and citizens checked out various resources Pierce County Environmental Services has available. Among the resources checked out were videos, water quality testing kits, macroinvertebrate sampling kits, and activity kits such as storm drain stenciling kits, "The Incredible Journey," and the groundwater model.

Benthic Index of Biological Integrity (B-IBI)
The B-IBI is a sampling method to assess water quality using biological indicators, namely, benthic macroinvertebrates. Partners in this endeavor in 2000 include the Pierce Conservation District, Pierce County Water Programs, the City of Lakewood, the City of University Place, and the Puyallup Tribe. Also participating was the Nisqually Tribe, and we coordinated with staff and students from the University of Washington who did a B-IBI study for the federal government on streams flowing through Fort Lewis and McChord Air Force Base.

Puyallup Spring Fair
Exhibits on flooding, green gardening, water conservation, non-point pollution, impervious surfaces, and salmon were set up at the Puyallup Spring fair in April, 2000. Many of these topics were discussed in "The Salmon Game," where participants travel downstream towards Puget Sound as salmon fry and encounter many of the ways in which people unknowingly degrade water quality and salmon habitat. Educational materials on these and other topics were distributed to the public. It can be assumed most of the 62,000 fairgoers walked through our exhibits because of the smaller scale of the Spring Fair compared to the Puyallup Fair in September.

Pierce County Solid Waste Newsletter
The newsletter is sent out to199,000 single-family and multi-family residences in Pierce County twice each year, but in 2000, a third newsletter was sent to help celebrate 10 years of curbside recycling and to incorporate more articles on water. Topics included tips for kids to help conserve water and save electricity, waste oil recycling, helping stop littering and illegal dumping, and information about the County's plans for reducing flooding problems. The newsletter will continue to be a valuable way to get information about water issues to Pierce County citizens.

Household Hazardous Waste Management
Pierce County and the City of Tacoma continue to partner in the collection of household hazardous wastes. County residents have access to Tacoma's permanent facility. In addition, Pierce County partnered with Tacoma and the Tacoma-Pierce County Health Department to provide four satellite household hazardous waste collection events in Steilacoom, Key Center, Orting, and the Bonney Lake/Buckley area. These efforts resulted in collecting 143,320 pounds of materials from 3,583 residents in 2000.

Household Hazardous Waste Information Line
(253) 798-4115
Our automated phone line gives information on how to safely dispose of hazardous household wastes in Pierce County. In 2000, 307 people used the phone line as a resource.

Yardwaste Composting Program
Pierce County provides curbside collection and self haul options for yard waste. In 2000, the County's contractor processed 46,413 tons of yard debris. The resulting compost is available at local landscaping supply companies.

WEBSITE INFORMATION
The *Green Book*
This directory of environmental education opportunities in Pierce County is becoming known as a valuable resource for formal and informal educators who are planning environmental curricula and are looking for speakers, resources,

and field trips. The *Green Book* includes sections on Ecology & Habitat, Zoos and Parks, Natural Resource/Waste Reduction, Water, Watershed Groups, Volunteer Opportunities, and Teacher Resources. In 2000, the fourth edition of the *Green Book* went on-line, as it is now on the County's website. A number of directories were printed and distributed to schools, libraries and agencies in Pierce County.

Environmental Services Website --
www.co.pierce.wa.us/services/home/envron
Pierce County Environmental Services now provides a variety of information on its website. All of the separate departments within Environmental Services list their programs, their plans, and their ongoing efforts to keep water clean. They also provide opportunities for citizens to participate in these efforts with information and links to volunteer organizations and planning groups. The website provides tips on how individuals can reduce their impacts on the environment: information on nonpoint pollution, alternatives to hazardous products, green gardening, and where to recycle difficult wastes such as construction/demolition debris and automotive oil and anti-freeze.

Operation and Maintenance of Stormwater Facilities (Water Programs)
Pond Maintenance
In 2000, 83 ponds were maintained. Maintenance activities include, but are not limited to, clearing, grading, sloping, excavation, vegetation management, mulching, hydroseeding and trash control. Also, 57 Control Manholes (Flow Restrictor/Oil Pollution Control Device aka FROP) were vactored and cleaned of pollutants. All waste was properly disposed of at a permitted facility. Total cost was $531,978.

Creek Maintenance
In 2000, crews performed maintenance on a number of creeks in unincorporated Pierce County. The work consisted primarily of vegetation management and/or silt removal from designed traps. The work was performed by County maintenance crews, as well as our District Court Probation/Detention crews at a cost of $83,012.

Drainage Concerns
Drainage concerns are entered onto the Service Response System, and delegated to the proper department for action. These numbers reflect only complaints handled by Water Programs, please see **Operation and Maintenance of Streets and Roads** and **Controlling Runoff from New Development and Redevelopment** for the SRS information for Roads and PALS. Water Programs handled:

127 Drainage Concerns
75 Closed with Resolution
5 Closed without Resolution

47 Remain Active (several are leading up to Small Works Projects in 2001 and 2002)

Total cost was $52,000 (Please note that several support staff perform duties related to the SRS but do not specifically bill their time to D031).

Vegetation Control (Riverine area)
Vegetation control is multi-benefit. We must keep access-ways clear of unruly and/or non-indigenous vegetation for maintenance crew activities, as well as for avoidance of structural damage to the levee and flood abatement structure. This work must be accomplished with compliance to tribal agreements and regulatory codes, while also maintaining vegetation that is conducive and beneficial to the fisheries resource. This work continues on a yearly basis. In 2000, maintenance crews planted 7000 pre-rooted willow tree starts on the Lower Puyallup River for erosion control and fisheries resource benefit. Total cost was $59,178.

Detention Crew
In 2000, Pierce County Water Programs utilized crews to assist in pond clearing and brushing, trash pickup, demolition and disposal of floodprone homes and property, fence construction, creek and ditch clearing and/or enhancement at a cost of $77,500, and gave us the equivalent work of 6.5 FTEs for the year (13,432 hours).

Operation and Maintenance of Streets and Roads
Pierce County Road Maintenance Division has been a part of the Tri-County effort in developing regional road maintenance guidelines. These guidelines, for ESA compliance and 4(d) coverage, are located at:
http://www.metrokc.gov/roadcon/bmp/pdfguide.htm
A large part, and the most important, are the training courses which are being developed in cooperation with T2 and University of Washington. All Road Operations employees will receive training on the ESA, requirements for BMP's, required permits, basics of ESA, design concepts for erosion control, biological review of habitat and fish species, and compliance and monitoring of BMP's. The remainder of the manual will go over the program elements for compliance with NMFS, and a BMP manual which combines all of the BMPs from our BMP manual as well as those from all the other participating agencies within the region. The program in not prescriptive but outcome based. This gives us the flexibility to change something if the end product isn't what we need to assure water quality and fish habitat protection. Our training offerings for 2000 are enclosed.

Our vegetation program continued to use the integrated vegetation management approach. Herbicides are a crucial part of that program as well as mechanical control. We have reduced our herbicide use of the course of the last 6 years. The estimate is that we have reduced output by approximately 40%. Changes in

application locations, increased urban development, and environmental awareness have all increased since 1995 and contributed to the decrease. We use only the following products:

Oust, Escort, Telar and Diuron by DuPont, Garlon 4 and Round-Up Pro by Monsanto, and Curtail by Dow Elanco.

We also have incorporated GPS into our spray program to better track and monitor application of herbicides in Pierce County. The GPS allows us to map all applications by chemical type applied and location. We have implemented a list of BMP's which will help to preserve water quality and sensitive habitat. Some of these BMP's are as follows:

Herbicides will not be applied in the following areas:
(a) Mowed or maintained lawns up to the roadway unless requested by the resident.
(b) In areas where there is a signed "Owner Will Maintain" agreement precluding such use.
(c) Within protected areas designated by the County comprehensive plan as being environmentally sensitive.
(d) Buffer areas within 25 feet of a stream crossing when possible.
(e) Defined ditches.
(f) Surface Waters or Aquatic sites, including streams lakes, ponds, and any other running or still water.

Note: The County may issue approval of aquatic herbicides within these areas when deemed necessary to protect the functional use and safety of the use of the county roadway or meet legal obligations after acquiring a DOE water quality variance permit. At that time, an individual policy will be made regarding aquatic herbicides after careful consideration of all environmental factors. An exception may be in the case of noxious weed control efforts under the direction of the Pierce County Noxious Weed Control Board if herbicides are determined to be the only reasonable form of control within these zones.
(g) Within 3 feet of the edge of the right-of-way if drift or other movement off of the right-of-way is expected.
(h) Within three feet of the fence line of an active pasture.
(i) Within 100 feet of known water wells or springs used for human consumption.
(j) Where the product label prohibits such use.
(k) Where herbicides would likely be moved through runoff water or otherwise moved into desirable crops or root zones of desirable plants.
(l) Within eroded areas where vegetation would be beneficial in reducing soil movement.

We are in the process of a Countywide drainage feature inventory and putting together an inspection and monitoring program for all drainage facilities within the County right-of-way which we maintain. We are incorporating handheld computers which will allow us access of this mapping system in the field for

reference of drainage facilities and sensitive areas. The program even goes more in depth by utilizing the inspection data for assigning and tracking maintenance. We are aggressively changing from a reactive mode of operation to proactive maintenance.

A summary of Pierce County road maintenance activities is included below.

2000 MAINTENANCE FUNCTIONS

FUNCTION	Measurement	PLANNED	ACTUAL	SPENT $$
Ditching with backhoe	Ditch feet	64,815	30,436	$99,855.00
Ditching with drott	Ditch feet	31,047	1,001	$2,018.00
Beltloading	Ditch mile	214	84	$111,494.00
Manually clean culvert ends	Each	9,118	3,256	$21,053.00
Mechanically clean culvert ends	Each	1,202	1,019	$22,801.00
Grate tops cleaned	Each	2,078	1,226	$6,962.00
Mechanically clean catch basins	Each	4,995	3,805	$126,258.00
Jet rodding	Lin. feet	177,492	148,701	$126,253.00
Repair/replace culvert pipe	Lin. feet	3,214	4,555	$156,183.00
Repair/replace catch basin	Labor hour	759	1,807	$106,005.00
Repair/replace drywells	Labor hour	801	817	$55,872.00
Erosion control repair	Labor hour	1,176	851	$42,492.00
Holding ponds	Each	0	0	$-
Ditching with Ditchmaster	Ditch mile	275	113	$196,300.00
Self containd street sweeping	Cntr.lane mile	3,374	3,010	$229,420.00
Misc. drainage repair	Labor hour	4,890	14,343	$870,164.00
Litter removal	Labor hour	1,220	4,466	$203,449.00
				$2,376,579.00

Please note: Many functions reduced due to Endangered Species Act. In April, we virtually stopped all soil disturbing activities.

Roads Drainage Concern Activity

Roads handles the road-related portion of the Service Response System. A table summarizing activity for the year is attached.

Vactor Stations

Pierce County Road Maintenance planned, budgeted and started construction of 2 vactor decant stations in 2000. The Puyallup station will be complete in about April 2001, and Purdy by the end of May. The operations procedures have been submitted to the Tacoma-Pierce County Health Department for their permit approval process. Plans include infiltration of the liquid from the station into the ground after it has been processed through the station. We will aerate and dilute the solids by turning them in covered storage bins then test the product prior to exiting the station. The topsoil product is made of ditch spoils, wood, chips, vactor solids, and other waste products generated from our daily operations. It is our intent to use the topsoil to cover denuded areas within our existing pits to promote vegetation.

Both facilities are identical and cost about $350,000.00 each.

Watershed-wide Coordination Activities

Pierce County continued to meet quarterly with the other NPDES permittees, and every 2 weeks after the release of the permit draft in December 2000. Pierce County continued to be active in all aspects of the Tri-County process, and we are lead entity for the 2496 salmon recovery process. Watershed councils are being formed in the Key Peninsula-Gig Harbor-Islands and Clover-Chambers watersheds.

Adequate Information to Conduct Planning, Priority Setting and Program Evaluation Activities

Pierce County Information Services, Road Maintenance, and Water Programs continued an ambitious program for updating drainage mapping. A total of $360,000 was spent in 2000 on verifying drainage features via GPS, and $165,000 was spent to update 25% of the ortho photos. Information Services costs for hardware, software, and network maintenance to support this effort was an additional $30,000.

Water Programs also has one technician working full time on maps and analysis for the Tri-County ESA 4(d) effort, maps for numerous Capital Improvement Projects, Council members and consultants. He also maintained a variety of coverages such as the monitoring gauging sites, Pierce County-owned Pond Inventory, water purveyors and geocoding of the Service Response System. Also supplied were maps and data pertaining to watershed studies in Pierce County to planners and engineers.

Pesticide Management

Since the initial review of our fertilizer and pesticide application's for the year 1999, many changes have taken place in the industry. Turfgrass maintenance materials are relatively the same, although their application philosophies are changing, relative to environmental concerns. Some new chemistries are being

introduced to the industry to address these concerns, although they are slow to reach the marketplace, and be integrated for commercial use.

Locally, we have been responding to a call for stewardship and environmental responsibility for several years. In 1997, we applied for certification in the Audubon Cooperative Sanctuary Program, and are progressing through the 6 "Achievement Categories" within the program. We are assessing and refining our golf course maintenance practices in the areas of Environmental Planning, Wildlife and Habitat Management, Integrated Pest Management, Water Conservation, Water Quality Management, and Outreach and Education. When we complete our written plans for each category, we will receive a "Certificate of Achievement", and when all 6 categories are complete, we will be a Certified Audubon Cooperative Sanctuary.

To directly respond to questions about our maintenance practices, we reviewed our employee training and product application records for the year 2000. We continue to send all of our full-time employees to continuing education opportunities, sponsored by the WSDA and WWGCSA. Each of our employees has a Washington State Pesticide Applicator's License, and receives a minimum of 8 hours of training annually on the safe and proper techniques of fertilizer and pesticide handling, mixing and application to maintain their license's in good standing.

Product applications for the calendar year 2000 followed a similar pattern to 1999, although we reduced our total pounds of fertilizer applied to the fairways by 25%, to the tees and greens by 15%, and total pesticide usage on the golf course and grounds stayed about the same. It should be noted that we treat turf affected by funguses on greens only, and weed control with herbicides is limited to irrigated turf. Our tolerances are 5% incidence, treated on a curative basis only. In other words, we are only treating for pests that impact the playability of our facilities, and tolerate a 5% disagreeable aesthetic occurrence.

We would also like to note that during the past 5 years, our supplemental irrigation applications have reduced almost 50%. We water our turf to the "wettest spot" philosophy, irrigating with large area, automatically controlled, gear rotor sprinkler heads, and tolerate 25% brownout during the summer month's of July and August. We apply irrigation in short cycles of 5 to 10 minute sets to prevent runoff.

Although each summer presents a different set of circumstances due to weather patterns and natural precipitation, we feel we are doing everything we can at this time to conserve water, and still present a golf course that is pleasing to our customers, and friendly to the environment we all share. We will continue to monitor and maintain our present application practices, which are recommended and endorsed by the WSU Cooperative Extension Service in Puyallup, WA.

A table of our application practices and chemicals used is attached.

Pierce County Parks - 2000 Training

Training Received	# Hours	Course Cost	Salary	Total Cost
Groundskeeper's Sports Field Course				
Michael Dunlap	16	175.00	21.58	520.28
Gerald Olson	16	175.00	24.33	564.28
Dennis Pelham	16	175.00	25.71	586.36
Bret Schuler	16	175.00	21.58	520.28
WSU/OSU Turf Field Day				
Rebecca Little	5	17.00	25.71	145.55
Pesticide Classes				
Parks employees (7)	96	420.00	27.10	3,021.60
Golf Courses (6)	96	420.00	25.71	2,888.16
Cost of Study Materials		118.90		118.90
Integrated Plant Health Management (pesticide credits)				
Erin Benedict	24	150.00	25.71	767.04
Rebecca Little	24	150.00	25.71	767.04
Gerald Olson	24	150.00	24.33	733.92
Dennis Pelham	24	150.00	25.71	767.04
Park Water System Workshop				
Kent Baskett	5		39.82	199.10
Dennis Bilderback	5		25.71	128.55
Karl Fyles	5		27.47	137.35
Skip Ferrucci	5		39.60	198.00
Water Management Seminar				
Rick Hults	24	210.50	35.51	1,062.74
Andrew Soden	24	210.50	35.05	1,051.70

Northwest Turfgrass Assoc Conference				-
Andrew Soden	24	627.98	35.05	1,469.18
GCSAA International Conference				
Andrew Soden	40	1,675.65	35.05	3,077.65
Washington Turf & Landscape (Pesticide credits)				
Andrew Soden	16	100.00	35.05	660.80
Scott Tyson	16	100.00	25.71	511.36
WWGCSA Crew Seminars				
Andrew Soden	40	165.00	35.05	1,567.00
Toby Lirot	32	155.00	25.71	977.72
Rick Lewis	24	120.00	11.00	384.00
Greg Bolender, Scott Olien	24	85.00	8.00	277.00
Scott Tyson	8	30.00	25.71	235.68
David Harper	8	25.00	27.86	247.88
TOTALS	657			$23,586.6

Conservation Futures Program

Conservation futures are moneys collected from each property in the County to purchase and preserve noteworthy properties.

The Pierce County Conservation Futures Citizens' Advisory Board reviewed twenty-two (22) property nominations for the selection year of 2000 and makes the following findings and conclusions:

- All reviewed properties meet the eligibility criteria of section 2.97.060 Pierce County Code (PCC).

- The findings are summarized in the following table:

Project Name	
Schibig-Lakeview Nature Preserve	

Sponsor:	Clover Creek Council and Tahoma Audubon
Title will be held by:	Tahoma Land Conservancy
Parcel Size:	10 Acres
Parcel Number:	02-20-10-4-090
Property Location:	West side of Spanaway Loop road and Tule Lake road.
Current use:	Farm with outbuildings
Open Space Resource Attributes:	Critical Salmon Habitat, Fish & Wildlife Habitat, Streams, Wetlands, Wood Area, Agricultural Land, Aquifer Recharge, Flood Hazard Area,
Other Attributes:	Within an Urban Area and is 5 Acres or larger in Area and abuts publicly owned wetlands, creating a linked open space
Conclusions	The property is actively being pursued for residential development. Public acquisition would protect the habitat and preserve the native oak and riparian habitat

Wards Lake Phase II Acquisition Project	
Sponsor:	City of Lakewood
Title will be held by:	City of Lakewood
Parcel Size:	8.2 Acres
Parcel Number:	03-20-31-1-006, 03-20-31-1-008, 03-20-31-1-010, 03-20-31-1-014
Property Location:	Southwest of 84th and I5, access off of 8523 Pine street.
Current use:	Undeveloped, wooded with open-water wetland
Open Space Resource Attributes:	Fish & Wildlife Habitat, Wetlands, Wooded Area, Aquifer Recharge Area, Flood Hazard Area.
Other Attributes:	Within an Urban Area, and is 5 Acres or larger in area and creates a linked
Conclusions:	The property is actively being marketed. Public acquisition would protect the wetland habitat and preserve the wooded uplands

Wapato Hills Urban Wildlife Habitat	
Sponsor:	City of Tacoma
Title will be held by:	City of Tacoma
Parcel Size:	43 Acres
Parcel Number:	934000-074-1, 934000-078-0, 934000-079-0, 934000-080-0, 934000-081-0, 943000-0830, 934000-0840-0, 934000-098-0
Property Location:	Off of 56th street and Tacoma Mall Blvd.
Current use:	Vacant undeveloped
Open Space Resource Attributes:	Fish & Wildlife Habitat, Wetlands, Wood Area, Aquifer Recharge, Landslide Hazard.
Other Attributes:	Within an Urban Area and is 5 Acres or larger in Area, and creates link to abutting open space.
Conclusions:	The property is actively being marketed. Public acquisition would protect the upland woodland habitat and wetland areas.

Schibig-Lakeview Nature Preserve.....$183,072.00

Wards Lake Phase II Acquisition Project..$413,155.00

Wapato Hills Urban Wildlife Habitat.....$Pending

Pierce Conservation District and Stream Team

Water Programs continued to fund basic operations for the Pierce Conservation District and Stream Team. The PCD continued to leverage this money into additional funding via grants. For instance, with grant applications made during 2000, the PCD obtained over $600,000 in grants for salmon habitat restoration and culvert replacement. A copy of their 2000 Annual Report is provided with this document.

Stream Team continues to act as an important educational tool for the County. Citizen involvement has been growing steadily, as people develop a sense of stewardship for the streams in their neighborhoods. This has resulted in the development of regional groups independent of the Stream Team to carry on with greater works. Examples would be the Leach Creek group, and the Murray Creek group.

Financial Summary

A summary of all the financial items mentioned in this report are summarized in the table following:

2000 NPDES EXPENDITURES

DEPT/PROGRAM	SWMP COMMITMENT		ACTUAL EXPENDITURE	
	FTE	$	FTE	$
Water Programs				
Capital Improvement Program	7.3	671,000	12.25	4,776,405
Salmon Habitat Recovery Lead Entity	-	-	.75	72,866
Pond & Creek Maintenance	-	-	6	614,990
District Court Crew	-	-	6.5 FTE equival.	77,500
NPDES Coordination & Transfer to PALS	.5	48,000	2	399,371
Monitoring	1.1	79,850	1	76,722
Watershed Planning	2.5	247,000	3.5	240,019
CWSP	1.25	125,000	1.25	322,860
Industrial Inspection	1.7	123,300	.7	31,927
River Improvement Activities				
Buyouts	-	-	Varies	1,063,895
Drainage Investigations	1.6	119,850	.8	51,967*
Tacoma Pierce County Health Department				
Recreational Shellfish	.1	7800	.15	7,200
On-Site Sewage O&M	2	153,400	2.2	160,000
Wellhead Protection			.5	29,000
Bathing Beach Sampling	-	-	.1	9,500
Groundwater Monitoring			1.5	120,000
Compliance Group	2	153,400	2	145,000 (Impacts of I695)
Chambers-Clover Management Plan			.3	42,000
Solid Waste	2	153,400	2	145,000
Source protection and Septic repair			1.3	98,000
PALS				
Implementation of Stormwater Management Manual	17	1,289,000	14.75***	1,000,000**

DEPT/PROGRAM	SWMP COMMITMENT		ACTUAL EXPENDITURE	
	FTE	$	FTE	$
Code Enforcement	4	465,700	.2	8,000**
Transportation Services				
Road Design	2	154,000		
Road Maintenance	23.75	1,994,300	24.75	2,376,579
Pierce County Conservation District and Stream Team				
	-	-	varies	109,180
Parks and Recreation				
Conservation Futures	1	-	1	596,227****
Training	-	5,305	-	23,586
Adequate Information				
Mapping	1	70,000	varies, but >1	555,000
Education				
	1	60,000	4	1,054,000

*Does not include PALS figures, which is wrapped into their budget.
**Difference in amounts as a result of better accounting allowing designation of NPDES functions only.
***FTE does not include people hired by contract from 4 engineering firms.
****All acquisitions not yet completed.